

PCTWORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : G02B 1/04, F21V 8/00		A1	(11) International Publication Number: WO 00/07039 (43) International Publication Date: 10 February 2000 (10.02.00)
(21) International Application Number: PCT/GB99/02482 (22) International Filing Date: 29 July 1999 (29.07.99) (30) Priority Data: 9816490.8 29 July 1998 (29.07.98) GB 9820064.5 16 September 1998 (16.09.98) GB (71) Applicant (for all designated States except US): THE COURT OF NAPIER UNIVERSITY [GB/GB]; 10 Colinton Road, Edinburgh EH10 5DT (GB). (72) Inventors; and (75) Inventors/Applicants (for US only): HAJTO, Janos [GB/GB]; 36 Liberton Gardens, Edinburgh EH16 6JS (GB). HINDLE, Colin [GB/GB]; 9 Glengyle Terrace, Edinburgh EH9 9LU (GB). GRAHAM, Andrew [GB/GB]; 11 Bailie Terrace, Edinburgh EH15 3BT (GB). (74) Agent: MURGITROYD & COMPANY; 373 Scotland Street, Glasgow G5 8QA (GB).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published With international search report.	
(54) Title: DISPLAYS			
(57) Abstract <p>The present invention describes a fluorescent dye doped polymer based optical wave-guide structure. The described polymers can be used to fabricate a range of display elements and illumination systems which work without the use of external electrical power. This is due to the process of the fluorescent dyes absorbing ambient light and then subsequently emitting light which is conducted by the polymer host material to a point where it is emitted. The emitted light can be of a range of colours depending upon the type of dye that polymers are doped with. There is a constant contrast between the light power flux emitted for the wave-guide structure and the light power flux of the ambient light. There is also provided a method in which a dielectric stack mirror layer fabricated on the surface of the polymer which can be used to improve the efficiency and the contrast of those optical elements.</p>			